



INTER SECTORAL NEEDS ASSESSMENT (ISNA)

Camp Component's Quantitative Assessment Report

Bentiu IDP Camp

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GLOSSARY

- **Household:** A household is a group of people who live in the same dwelling and share food and other key resources. This may include people who are not part of the family but who are being hosted by the family. If there is any ambiguity, survey respondents will have the final say on who belongs to their household.
- **Household head:** A member of the household who is recognized by other members as the main decision maker regarding food and other resources and major household activities. A household head can be male or female.
- **Host Community:** For this survey, host community are considered South Sudanese people that have never been displaced from their habitual residence since the start of the conflict in South Sudan in December 2013.
- **Internally Displaced Persons (IDPs):** Persons who have been forced to leave their homes or places of habitual residence because of or to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized state border. There is no time limit on being an IDP, as the status ends when the person is able and willing to return to their original home or makes a free choice to settle in a new location. For this study, persons displaced since the start of the conflict in South Sudan December 2013 are considered in this category.
- **Returnees:** Persons who have been displaced from their habitual residence either within South Sudan or abroad, who have since returned to their habitual residence. In this survey, this category is restricted to individuals who returned to the exact location of their habitual residence, or an adjacent area based on a free decision since 2016. South Sudanese displaced persons having crossed the border into South Sudan from neighboring countries without having reached their home are considered still displaced.

ACRONYMS

- AAP: Accountability to Affected Population
- ANC: Antenatal Care
- EA: Enumeration Area
- FSNMS: Food Security and Nutrition Monitoring System
- GBV: Gender-based Violence
- HH: Household
- IDP: Internally Displaced Person
- MHPSS: Mental Health and Psychosocial Support
- NBS: National Bureau of Statistics
- NFI: Non-food Items
- PPS: Probability Proportion to Size
- PSU: Primary Sampling Unit
- PwD: Person with Disabilities
- RRC: Relief and Rehabilitation Commission
- SSU: Secondary Sampling Unit
- VAS: IOM’s Village Assessment Survey

BACKGROUND AND AIM

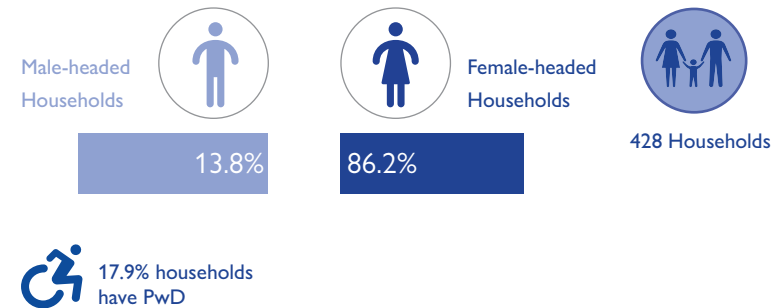
There has been slow progress in the humanitarian situation in South Sudan as a consequence of prolonged conflict, social and political instability, climate-related shocks – such as severe flooding and erratic rainfall – and economic depreciation. The interrelated hardships continue to adversely impact the humanitarian conditions of civilians in South Sudan, in terms of protection risks, food insecurity, exposure to violence, public health challenges, barriers to services and more. Despite the signing of the Revitalized Agreement on the Resolution of the Conflict in the Republic of South Sudan (R-ARCSS) in 2018, progress on its implementation has been modest.

Vulnerable people in South Sudan, including people with disabilities (PWD), are more susceptible to the cascading and compounding effects of protracted violence, extreme weather events and poor macro-economic conditions, further aggravating their vulnerabilities.

The overall objective of the 2022 humanitarian Inter-Sectoral Needs Assessment (ISNA) is to collect and analyze data on household needs and vulnerabilities, displacement and migration history, shelter and non-food items (SNFI), water, sanitation and hygiene (WASH), health, education, protection – including gender-based violence (GBV), child protection – humanitarian assistance and social cohesion.

The ISNA aims to fill the information gaps for the 2023 Humanitarian Needs Overview and provide an update to the two-year Humanitarian Response Plan (2022 – 2023). The data collection, conducted between September and October, addresses these gaps, while fully respecting accountability to the affected populations and minimizing assessment fatigue.

KEY FINDINGS



94.4% have at least one child under the age of 18 in their household, 90.7% have at least one child between the ages of 6 and 17, and 84.6% have at least one child aged 5 years or younger.

Main reported reasons IDPs were displaced include insecurity due to targeted violence (60.4%) and insecurity due to generalized violence (26.6%).

Main reported factors hindering IDPs from returning include insecurity (62.5%), lack of services in area of return (57.1%), home and land destroyed (36.5%) and lack of means and financial support (36.5%), house is destroyed (35.3%) and lack of livelihoods (26.3%).

80.9% described the relations between the host community and displaced groups as good.

78.3% have one member in their HH with a health problem and 28% reported having a member in their household was unable to access healthcare when needed, mainly due to long waiting times to receive health services (42.3%) and because health services are only accessible during certain parts of the day (34.6%).

93.9% reported boreholes or protected wells as their main source of drinking water and 0.9% reported feeling unsafe while collecting water.

0.7% reported that members in their household had to restrict their movement due to insecurity.

42.2% are in need of accessing justice mechanisms and 30.5% were unsuccessful; 66.2% are in need of accessing civil documentation and 8.9% were unsuccessful; 60.4% are in need to accessing protection services and 12.4% were unsuccessful.

The main protection concern for girls (57.1%) and boys (64.3%) was the need for every household member to work to meet the family's basic needs.

44.4% reported that all primary school-aged children in their household attend school and 15.8 per cent reported having children in their household who dropped out of school.

9.1% reported facing an ownership dispute related to housing land and property.

42.2% perceive that they are able to provide feedback and make complaints regarding humanitarian assistance.

15.2% reported that members in the household were in need and tried to access humanitarian assistance but were unsuccessful.

97.2% reported food assistance as the priority need, followed by shelter (73.9%) and drinking water (54.8%).

OVERVIEW OF METHODOLOGY

The quantitative Assessment of the ISNA Protection of Civilians (PoCs) sites component is based on household surveys representative at the county level in all 78 counties of all ten states and Abyei Administrative Area, current and former PoCs sites, using a multi-sectoral questionnaire, which has been updated in collaboration with relevant clusters to fill in information gaps relevant to effective humanitarian planning and programming.

Three population groups – host community, internally displaced persons (IDPs) and returnees – participated in the survey. Selected IDP camps will be representative at a 95 per cent confidence level with a 5 per cent margin of error at the location level. PoCs sites not assessed independently are included in the rural component's sampling frame to ensure nationally representative data.

This exercise was coordinated with relevant government agencies, including the Relief and Rehabilitation Commission (RRC) and the National Bureau of Statistics (NBS), to mitigate any potential operational challenges and ensure a high-quality sampling frame reliant on up-to-date enumeration areas (EAs).

The population estimates for the host community were taken from WorldPop South Sudan's gridded population estimates for the non-displaced population and were adjusted to discount returnee figures. A population growth factor was applied to account for the minimum changes since these non-displaced population estimates were released. The data for population estimates for IDPs and returnees were provided by Mobility Tracking Round 12, which has collected individual and household estimates of IDPs, returnees and host community on location-level.

The presence of populations, population figures and access to sampled areas were validated by field teams undertaking Mobility Tracking Round 13. The exercise collects GPS points for the assessed locations given to the ISNA field teams during data collection, avoiding delays in identifying settlements in an area. Coordinates are validated and triangulated with data from the One Settlement Initiative, OCHA, OpenStreetMap (OSM), IOM's Village Assessment Survey (VAS) and existing data on urban extents.

The survey used two units of measurements for the final dataset:

Household: A household is a group of people who live in the same dwelling and share food and other key resources. This may include people who are not part of the family but who are being hosted by the family. If there is any ambiguity, survey respondents will have the final say on who belongs to their household.

Stratum: In this assessment, for the urban component, a stratum represents the intersection between a geographic area (i.e., location), population group (i.e., host community, IDP, and returnee), and high-priority urban areas.

Limitations and risks while undertaking the quantitative assessment included the rainy season, floods and security concerns which limited physical access and caused some roads to become impassable while other parts across the country became inaccessible, causing delays.

Please see the Appendix on page 10 for further information on the methodology used.

ASSESSMENT FINDINGS

DEMOGRAPHICS

Sociodemographic Profile

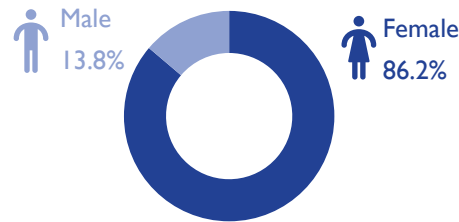
A total of 428 individual household members (hereinafter referred to as 'the survey respondents' or 'respondents') across Bentiu IDP camp in Unity State in South Sudan participated in the assessment. The reported average household size is 8.9 persons per household. The survey targeted heads of the household, but in their absence, an individual household member answered on their behalf.

Gender and age disaggregated data revealed that 86.2 per cent of households were female-headed and 13.8 per cent male-headed. A higher-share of female-headed households may indicate that adult men are not present within that household, seeing

that women are not usually considered heads of a household even if they are the main economic contributors unless there are no adult men living in the house.

Among all respondents, the average age was 34.4 years, and the majority (94.9%) were married, while 4 per cent were single and 1.2 per cent were widowed. Overall, 94.4 per cent of respondents reported having at least one child under the age of 18 in their household, 90.7 per cent reported having at least one child between the ages of 6 and 17, and 84.6 per cent reported having at least one child aged five years or younger.

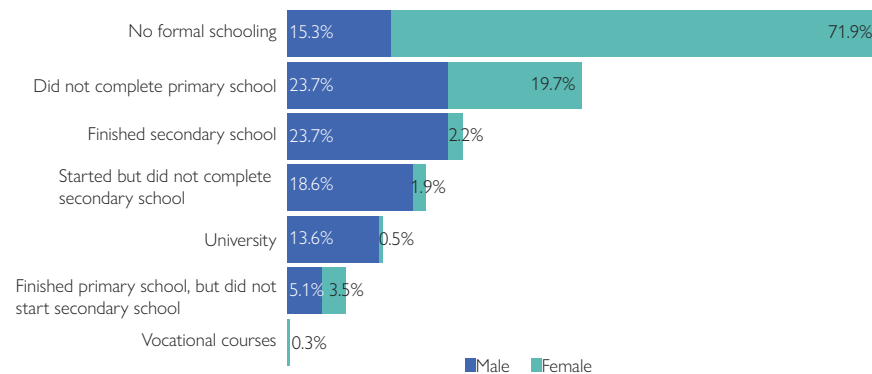
Chart 1: Distribution of respondents households by gender (%)



Educational Background

Almost two thirds of respondents, or 64.1 per cent, did not receive formal schooling. The survey findings show that respondents lacked access to education, with 20.3 per cent reporting having started but did not complete primary school, 2.1 per cent completed secondary school, 4.2 per cent started but did not complete secondary school, 3.7 per cent completed primary school only. A reported 2.3 per cent have a university degree and 0.2 per cent received vocational training.

Chart 2: Reported education status of households (%)



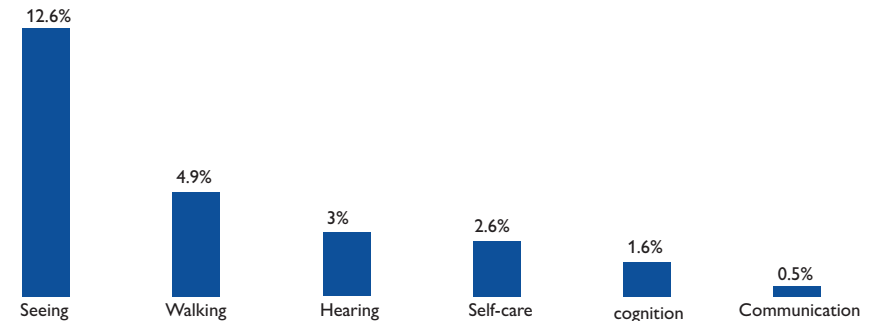
Persons with Disabilities (PwD)

Survey findings show that 17.9 per cent of households have a member who has at least one disability that limits their functionality, according to the Washington Group Questions which ask respondents about the difficulties they have while doing certain activities due to a disability.

Among those who reported having a member in their household with at least one disability (17.9%), female members accounted for 93.5 per cent of people with disabilities (PwD) and male members accounted for 6.5 per cent of PwD. Around 3 per cent of households reported having at least one child with disabilities.

Survey findings show that 12.4 per cent of households have a member who has a chronic illness or illness that has lasted longer than three months, of whom 90.6 per cent are female members and 9.4 are male members.

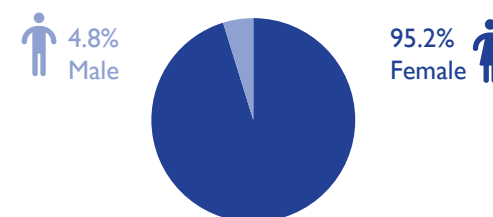
Chart 3: Distribution of people with disabilities by their reported disability (%)



Safety and Security

Overall, 4.9 per cent of the total respondents reported that members in their household have been affected by a safety or security incident in the last thirty days, of whom 95.2 per cent were female members and 4.8 per cent were male members.

Chart 4: Households affected by safety and security incidents by gender (%)



DISPLACEMENT AND MOBILITY

Displacement Trends, Intentions and Perceptions

Main reasons for forced displacement to current locations

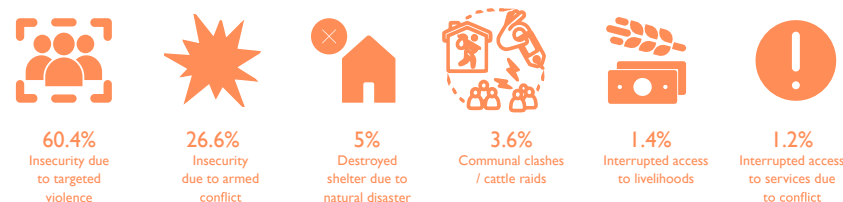
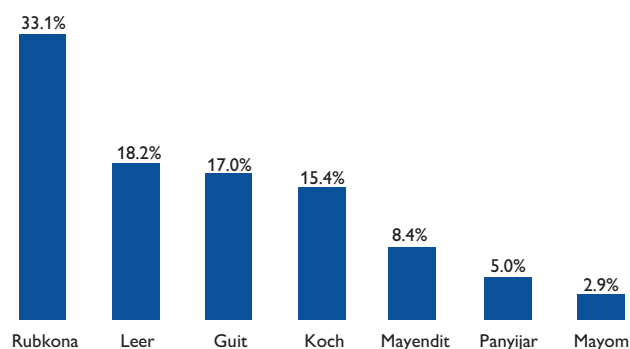


Chart 5: Reported counties of displacement (%)



Respondents were asked whether they intend to return to their habitual residence or relocate to a different location within the next two years, 77.9 per cent reported their intention to return to their habitual residence (88.3% females and 11.7% males), 19.7 per cent reported their intention to remain in their current location (78% females and 22% males), 2.2 per cent reported their intention to relocate to a different location (88.9% females and 11.1% males) and 0.2 per cent did not know.

Among respondents who intend to return to their habitual residence or relocate elsewhere, 30.5 per cent reported not knowing when they plan on doing so, whereas 24.3 per cent reported that they plan on doing so in more than 12 months, 15 per cent in 1 to 3 months, 12.6 per cent in 4 to 6 months, 11.7 per cent in 7 to 12 months, 5.7 per cent in less than one month and 0.3 per cent preferred not to answer.

The main reported barriers preventing IDPs from returning to their areas of habitual residence prior to displacement (area of return) include insecurity (62.5%), lack of services (57.1%), lack of financial means (36.5%), house is destroyed (35.3%), lack of livelihoods (26.3%), among others (15.1%).

Around 22.6 per cent of the households interviewed are hosting IDPs, 4 per cent are hosting returnees/relocated persons and 16.3 per cent are hosting separated children. Among those households hosting IDPs and/or returnees/relocated persons and/or children, 58.8 per cent have members of their family living elsewhere in South Sudan, 26.5 per cent have members of their family living abroad and 1 per cent have members of their family both living elsewhere within the country and abroad.

The top reasons why some members of the family are living elsewhere are education opportunities (85.1%), to join family members (13.8%) and access to healthcare (1.1%). The reasons children were living elsewhere within South Sudan or abroad were to search for employment opportunities (50%), education opportunities (50%), marriage (37.5%), visit others (25%), join army (12.5%) and sent to live with relatives (12.5%).

Within those households that have members of their family living abroad, 37.5 per cent have children in their households who engage in local employment opportunities. This may suggest that these households are struggling with access to livelihoods, considering that they have family members who live elsewhere mainly to search for employment opportunities.

SHELTER AND NON-FOOD ITEMS (NFIs)

Shelter and Non-Food Items

Almost one half (51%) of survey respondents reported that the type of shelter their household currently resides in is a Rakooba and the other half (49%) in a Tukul (49%).

The most common non-food items households reported to have at home are sleeping mats (85.3%), mosquito nets (80.9%), blankets (57.1%), plastic sheets (27%), solar lamps (24.9%), followed by kitchen kits (8.4%), Kangas (4.2%) and NFI bags (1.2%).

Relations between host community members and displaced groups

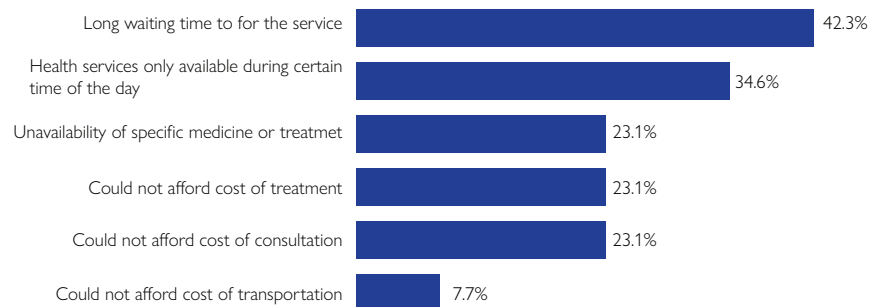
When survey respondents were asked to describe the relations between the host community and displaced groups, the majority, or 80.9 per cent, described it as good, reporting that there are significant daily social and economic interactions, sharing of assistance and resources, and no conflict in communal areas. Around 10.3 per cent described it as neutral and 6.3 per cent as poor, reporting frequent conflict or threats of conflict in communal areas and limited or no sharing of assistance and resources. Around 2.1 per cent reported that there are no IDPs and/or returnees/host community members in their area, and the remaining 0.5 per cent preferred not to answer.

HEALTH

The majority of survey respondents (78.3%) reported having a household member with a health problem and is in need of healthcare, of whom 76.3 per cent reported that they sought healthcare in an NGO hospital, followed by an NGO clinic (10.8%), government health center (5.4%), private hospital (5.4%), government hospital (1.1%) and other private medical facilities (1.1%).

Over one quarter of respondents (28%) reported that a member in their household was unable to access healthcare when needed, of whom 96.2 per cent were female members and 3.8 per cent were male members.

Chart 6: Main reported barriers to accessing health services (%)



Around 64.8 per cent of respondents reported that a pregnant woman in their household was successfully able to access antenatal care (ANC) in the last two years, whereas 34.2 per cent reported that pregnant women in their household did not try to access ANC but 0.2 per cent reported that at least one pregnant woman in their household tried to access ANC but ANC services are not available in their location. Around 0.5 per cent reporting not having pregnant women in their households, in the last two years, the remaining 0.2 per cent did not know.

When survey respondents were asked how long it takes any household members to reach the nearest functional health facility, 64 per cent reported in 15 to 30 minutes, 24 per cent in 30 minutes to one hour, 8 per cent in less than 15 minutes, and 4 per cent in 1 to 2 hours.

Among households with children five years of age or younger (84.6%), 97.8 per cent reported that children have been vaccinated, of whom 96.6 per cent received the Polio vaccine, 85.6 per cent received the Tuberculosis vaccine, 76.3 per cent received the Measles vaccine and 74.1 per cent received the Tetanus vaccine. The most common places children received vaccinations at were in a NGO clinic (76.7%), primary health center (28.4%), private clinic (6.7%), government hospital (6.2%), house to house team (3.9%) and government health post (1.4%).

Whereas 2.2 per cent of households with children five years of age or younger (80.4%) reported that children have not been vaccinated, mainly due to the unavailability of a nearby functional health facility (87.5%) and lack of knowledge on vaccinations (12.5%).

Chart 7: Main reported barriers to accessing vaccination services (%)

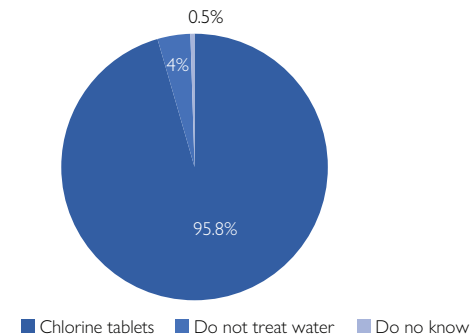


WASH

Drinking Water

The majority of the survey respondents (93.9%) reported public tap serving more than five households as their main source of drinking water, followed by a tap stand serving not more than five households (4.2%) and deep borehole or protected well (1.9%).

Chart 8: Reported water treatment methods (%)



Around 45.9 per cent of respondents reported that it takes them less than 30 minutes to reach their main water source, 33.3 per cent reported that water is delivered to the compound, 13.8 per cent reported that water is available inside the compound, 6.1 per cent reported 30 minutes to 1 hour, 0.7 per cent one hour to less than half a day, 0.2 per cent in more than half a day.

On average, each household has around 2.4 containers for storage and to collect water. When survey respondents were asked if members in their household have felt unsafe while collecting water from their main water source, 0.9 per cent answered yes, of whom 75 per cent were female members and 25 per cent were male members.

Sanitation Facility

Three quarters of respondents (75.5%) reported that they defecate in a pit latrine with a slab or platform, 11.2 per cent defecate in a pit latrine without a slab and platform, 9.1 per cent in a flush toilet, 4 per cent in an open hole and 0.2 per cent in a plastic bag.

The majority of households with children under the age of five years (84.6%), reported that children defecate in household latrines (90.4%), followed by a shared latrine (9.1%), communal latrine (0.3%) and 0.3 per cent in plastic bags.

PROTECTION

Movement Restrictions

Owing to the insecure environment, 0.7 per cent of the survey respondents reported that members in their household had to restrict their movement, all of whom (100%) were female members.

The main reported reasons respondents were restricting their movement due to insecurity include death or injury as a result of violence, as reported by 66.7 per cent, followed by kidnapping (33.3%) and sexual violence (33.3%).

Chart 9: Main reported safety concerns for boys (%)

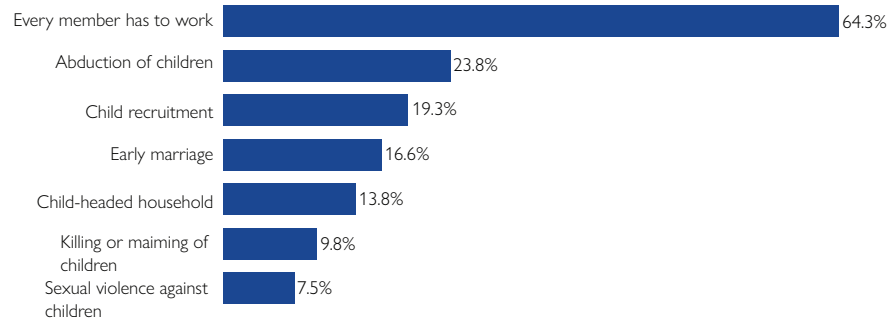
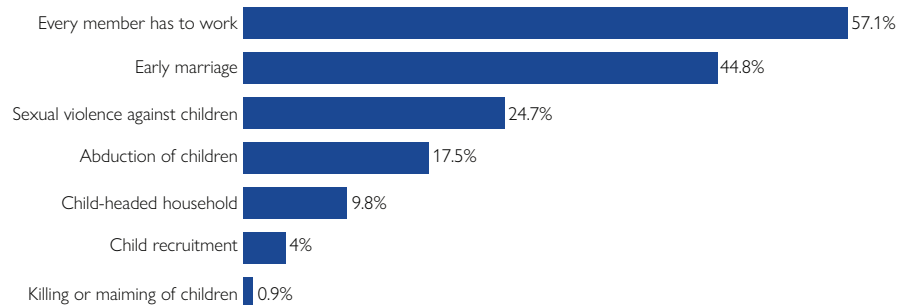


Chart 10: Main reported safety concerns for girls (%)



Access to Justice Mechanism

When survey respondents were asked if household members needed to access justice mechanisms and 42.2 per cent responded yes. However, 30.5 per cent were unable to access formal justice mechanisms, but 11.7 per cent reported accessing customary or informal justice mechanisms.

Civil Documentation

Overall, 66.2 per cent of survey respondents reported that members in their household were in need of accessing civil documentation, however 57.3 per cent of respondents were able to successfully do so. The remaining 8.9 per cent were unsuccessful.

Among respondents who reported having household members in need of accessing civil documentation (66.2%), the most common types were national identification (62%), birth certificates (48.9%) and passports (20.1%).

Access to Protection Services

Around 60.4 per cent of the survey respondents reported that they were in need of and tried to access protection services. Around 12.4 per cent of respondents were unsuccessful in doing so and 48 per cent were successful in accessing protection services. Less than one third of respondents (30.5%) reported that protection services were unavailable, however 58.3 per cent reported that MHPSS services are available, in addition to rape treatment and treatment of physical injuries (32.2%) and legal aid services (19.8%).

Safety and Security Concerns for Children

The main reported safety and security concerns for boys (under 18 years), as reported by the survey respondents, include the need for every household member to work to meet the family's basic needs (64.3%), abduction of children (23.8%), child recruitment by armed forces (19.3%), early marriage (16.6%), child-headed households (13.8%), killing or maiming of children (9.8%), sexual violence against children (7.5%) and social norms (7.5%). Around 0.7 per cent reported not knowing.

The order of the safety and security concerns for girls (under 18 years) was slightly different. Around 57.1 per cent of respondents reported that the need for every household member to work to meet the family's basic needs is the most reported concern, followed by early marriage, accounting for 44.8 per cent. Other concerns include sexual violence against children (24.7%), abduction of children (17.5%), child-headed households (9.8%), child recruitment by armed forces (4%) and killing or maiming children (0.9%). Around 0.7 per cent reported not knowing.

Housing, Land and Property

The majority of survey respondents (73.4%) reported that their household do not have any HLP problems, but 9.1 per cent of respondents reported that their household is facing an ownership dispute, loss of documents (6.5%), inheritance dispute (4.9%), rules and processes on housing and land are not clear (3.7%), among others such as unlawful occupancy, lootings, rental dispute, boundary dispute. Around 0.2 per cent reported that they are facing a threat of eviction, whereby 100 per cent of them are female-headed households.

When survey respondents were asked how they attempt to resolve problems relating to housing, land and property, the most common response was through community chiefs (93.8%), traditional courts (9.8%), formal courts (6.2%) and family network (0.9%), while 3.6 per cent reported not taking any action.

EDUCATION

Overall, 94.4 per cent of respondents reported having at least one child under the age of 18 in their household, of whom 44.4 per cent reported that all primary school-aged children in their household attend school, compared to 35.8 per cent who reported that some do, while 8.1 per cent reported that no primary-school aged children attend school, and 11.6 per cent did not know.

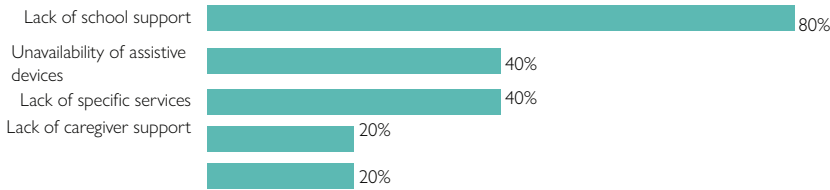
Among households with children under the age of 18 years (94.4%), 15.8 per cent reported having children in their household who dropped out of school. Around 10.6 per cent reported having boys in the household who dropped out of school and similarly, 10.6 per cent reported having girls who dropped out.

The main barriers hindering some children from attending school, as reported by households who have some children who attend (35.8%) and households who do not have any children who attend (8.1%), include unaffordable fees (73.1%), lack of school materials (23%), lack of transport (8.4%), early marriage (7.9%), schools are closed due to floods (6.2%), lack of documentation (5.1%), schools are closed due to conflict (3.9%), insecurity (2.8%), school is not a priority (2.2%), child labor (1.7%), lack of staff (1.1%) among other reasons (2.3%).

Households with children with disabilities reported that the main barriers hindering access to education include lack of school support (80%), unavailability of assistance (40%), lack of specific services (40%) and lack of caregivers (20%).

Among households with children under the age of 18 years (94.4%), 56.8 per cent reported that it takes members in their household less than 15 minutes to reach the nearest education facility, 35.3 per cent reported it takes between 15 to 30 minutes, 4.7 per cent reported 30 minutes to 1 hour, 0.2 per cent 1 to 2 hours, while 0.2 per cent reported more than two hours, and 2.7 per cent did not know.

Chart 11: Main reported barriers of people with disabilities to accessing education (%)



ACCOUNTABILITY TO AFFECTED POPULATION

Survey respondents were asked whether they perceive that they are able to provide feedback and make complaints regarding humanitarian assistance, and 42.2 per cent responded yes.

Of whom, 50.8 per cent reported that they submitted a case in a complaint and feedback mechanism (CFM) in the last three months of when the survey was conducted. Among those who submitted a claim, 95.7 per cent reported that the responsible organization responded to them regarding their complaint and provided them with updates on the actions they are taking to help provide feedback.

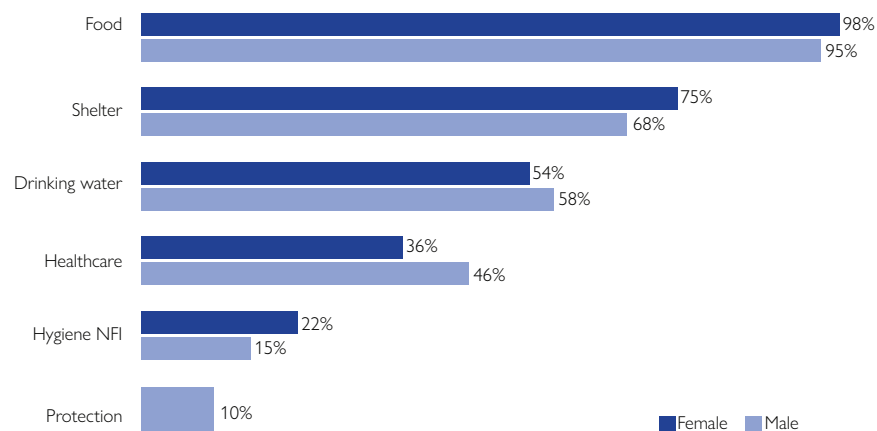
Additionally, among those who submitted a claim, 93.5 per cent reported that the mechanism to voice concerns and complaints regarding aid is easy to access and use, 92.4 per cent reported that it is appropriate for their community, 91.3 per cent reported that it is trustworthy, and finally 95.7 per cent reported that they feel that their views and opinions are taking into account in the implementation of the CFM.

The majority of survey respondents reported that members in the household were in need and tried to access humanitarian assistance within the last three months of when the survey was conducted. However, 15.2 per cent of those in need were unsuccessful in accessing it, of whom 81.5 per cent were female members and 18.5 per cent were male members.

Food assistance was reported as the top priority need among all survey respondents, accounting for 97.2 per cent. Shelter and drinking water were also amongst the top basic needs as reported by 73.9 per cent and 54.8 per cent of respondents, respectively.

Around 37.8 per cent reported that they are in need of healthcare, hygiene NFIs (21%), education for children (7%), protection services (5.6%), livelihoods support (0.9%), psychosocial support (0.9%), cash assistance (0.5%), seeds and agricultural inputs (0.2%) and training (0.2%).

Chart 13: Main reported priority needs of households (%)



APPENDIX

Methodology

For humanitarian needs analysis, urban areas in South Sudan can be defined as the ten state capitals plus the three towns of Yei, Nimule and Renk, which combine relatively high population sizes with significant cross-border markets. While some of the other county capitals may qualify as urban areas based on purely geographical criteria (built-up extent), they tend to have low population sizes and serve primarily as local markets for the rural population in the respective counties, being exposed to similar shocks and drivers of need.

Size is measured as the estimated number of building footprints in each urban area, based on recent high-resolution satellite imagery. This is a better proxy for the current population than 2008 census estimates, which would not account for the mass population movements that took place during and since the conflict in South Sudan.

Given the need to efficiently allocate limited resources for data collection and analysis, six priority areas – Juba, Wau, Yei, Bor, Rubkona/Bentiu, and Malakal – were selected based on their size and expected level of humanitarian need for inclusion as separate strata in the 2021 FSNMS+, which will be assessed again in the ISNA in the same manner.

For the urban component, IOM conducted a field assessment of the EAs in the six high-priority urban areas – Juba, Wau, Bor, Yei, Bentiu/Rubkona and Malakal – as well as a desktop assessment of the EAs in the five state capitals not covered by the field assessment – Torit, Kuajok, Aweil, Rumbek and Yambio, to refine these EA boundaries and collect additional information on the EAs to inform ISNA sampling. Footprints of building structures for the targeted areas were extracted from recent high-resolution satellite imagery from Maxar using automated image-recognition technology.

IOM’s field assessment was conducted in the six high-priority urban areas through direct observation and key informant interviews. The key informant interviews collected data on population attributes and thematic indicators – common shelter types, presence of road networks, and access to markets – and built basic profiles of EAs, which later allowed for more accurate stratification (grouping) of EAs. Additionally, trained teams of enumerators assessed the preliminary EAs, drawing polygons containing non-residential and destroyed buildings, commercial, industrial or non-residential areas and unoccupied/destroyed buildings on high-resolution maps using mobile GIS software.

The preliminary EAs were adjusted to ensure they contain approximately equal numbers of residential building footprints. The approximate size of each EA varied based on the size of each city, with about 200 residential footprints per EA in the smaller urban centers and 1,000 building footprints used in large centers like Juba and Wau.

In larger urban areas – Juba, Wau, Bor and Yei – the study adopted a stratified two-stage clustered sampling strategy to generate an approximately self-weighting sample. In smaller urban areas – Bentiu/Rubkona and Malakal – stratified random sampling was used, with each EA constituting a stratum. Shelters were sampled from each EA in proportion to the total number of estimated residential shelters to obtain a self-weighting sample.

Current and former PoC sites were treated as independent strata, given the unique circumstances of their population, who face specific drivers of need. Households within each camp were selected using stratified random sampling of shelter units by block. Recent population counts, BMR (biometric registration) records or shelter counts were used to design a self-weighting sample. The sampling frame was based on existing address systems maintained by Camp Coordination and Camp Management (CCCM) or, where these were unsuitable for sampling, maps were derived from satellite imagery.

Considering that most of the urban population in South Sudan lives in single-household compounds, residential shelters are a suitable proxy for households. When multiple households live in the same sampled shelter, one is chosen using a random number generator embedded in the ODK data collection tool.

As part of monitoring and evaluation, the project included a pre-assessment phase, comprising of a 4-day training and a pilot field test, in addition to ongoing field and office-based feedback and daily data-checks and data cleaning.



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